Patent
Attorney's Docket No. 027566-033

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Pasi Matti Kalevi AHONEN	)	Group Art Unit: Unknown
	)	
Application No.: 09/869,884	)	Examiner: Unassigned
	)	
Filed: July 10, 2001	)	
	)	
For: LOCAL WIRELESS SERVICES	)	

TRANSMITTAL LETTER FOR MISSING PARTS OF APPLICATION

BOX: MISSING PART
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In complete response to the Notice to File Missing Parts of Application Under 37 C.F.R. § 1.53(b) dated August 16, 2001, enclosed please find:

[X] a Combined Declaration and Power of Attorney signed by the inventor(s) and the surcharge of [ ] $65.00 (205) [X] $130.00 (105) as set forth in 37 C.F.R. § 1.16(e);

[ ] Note that the inventor(s) identified on the currently filed Combined Declaration and Power of Attorney are different than listed on the application filing papers.

[ ] a Request for Refund;

[ ] a Petition for Extension of Time;

[ ] a verified English translation of the Application, and the $130.00 (139) fee as set forth in 37 C.F.R. § 1.17(k);

[ ] an Assignment document and a separate check for the $40.00 (581) Assignment recordation fee;

[ ] drawings for publication;

[X] other Information Disclosure Statement;

[X] a check in the amount of $ 130.00 for the fee due for missing parts; and

JC17 Rec'd PCT/PTO 10 JUL 2001

FORM-PTO-1390 (Rev. 12-29-99) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: 027566-033

U.S. APPLICATION NO (If known, see 37 C.F.R. 1.5): UNASSIGNED 09/869884

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/FI99/01054	17 December 1999	11 January 1999

TITLE OF INVENTION: LOCAL WIRELESS SERVICES

APPLICANT(S) FOR DO/EO/US: Pasi Matti Kalevi AHONEN

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and the PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☒ has been transmitted by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☐ have been transmitted by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
    ☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:

    International Preliminary Examination Report, Unexecuted Declaration

JC18 Rec'd PCT/PTO 10 JUL 2001

U.S. APPLICATION NO (If known, see 37 C.F.R. 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
UNASSIGNED 09/869884	PCT/FI99/01054	027566-033

17. ☒ The following fees are submitted:	CALCULATIONS	PTO USE ONLY
Basic National Fee (37 CFR 1.492(a)(1)-(5)):		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO $1,000.00 (960)		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO $860.00 (970)		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO $710.00 (958)		
International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) $690.00 (956)		
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) $100.00 (962)		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 860.00	
Surcharge of **$130.00 (154)** for furnishing the oath or declaration later than 20 ☐ 30 ☐ months from the earliest claimed priority date (37 CFR 1.492(e)).	$ -0-	

Claims	Number Filed	Number Extra	Rate		
Total Claims	6 -20 =	-0-	X$18.00 (966)	$ -0-	
Independent Claims	3 -3 =	-0-	X$80.00 (964)	$ -0-	
Multiple dependent claim(s) (if applicable)			+$270.00 (968)	$ -0-	
TOTAL OF ABOVE CALCULATIONS =				$	
Reduction for 1/2 for filing by small entity, if applicable (see below).				$ -0-	-
SUBTOTAL =				$ 860.00	
Processing fee of **$130.00 (156)** for furnishing the English translation later than 20 ☐ 30 ☐ months from the earliest claimed priority date (37 CFR 1.492(f)). +				$ -0-	
TOTAL NATIONAL FEE =				$ 860.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00 (581)** per property +				$ -0-	
TOTAL FEES ENCLOSED =				$ 860.00	
				Amount to be: refunded	$
				charged	$

a. ☐ Small entity status is hereby claimed.

b. ☒ A check in the amount of $ 860.00 to cover the above fees is enclosed.

c. ☐ Please charge my Deposit Account No. 02-4800 in the amount of $_____ to cover the above fees. A duplicate copy of this sheet is enclosed.

d. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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(703) 836-6620

SIGNATURE

Kenneth B. Leffler
NAME

36,075
REGISTRATION NUMBER

Patent
Attorney's Docket No. 027566-033

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
Pasi Matti Kalevi AHONEN	Group Art Unit: UNASSIGNED
Application No.: UNASSIGNED	Examiner: UNASSIGNED
Filed: July 10, 2001	
For: LOCAL WIRELESS SERVICES	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please replace claim 3 as follows:

3. (Amended) A method according to claim 1, wherein the service notification messages are broadcast from the local service via a broadcast antenna and the identification phase is carried out using a directional antenna or receiver provided at the local service.

REMARKS

The above changes to the claims have been made to delete multiple dependency of the claims, to round out the scope of patent protection being sought, and generally to place the claims in better condition for examination on the merits.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: ______________________
Kenneth B. Leffler
Registration No. 36,075

P.O. Box 1404
Alexandria, Virginia 22313-1404
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Date: July 10, 2001

Attachment to Amendment dated July 10, 2001

Marked-up claim 3

3. (Amended) A method according to claim 1 [or 2], wherein the service notification messages are broadcast from the local service via a broadcast antenna and the identification phase is carried out using a directional antenna or receiver provided at the local service.

Local Wireless Services

Field of the Invention

The present invention relates to local wireless services and more particularly to the use of mobile terminals in the provision of local wireless services.

Background to the Invention

With the increasing use of mobile telephones, proposals have been made to make use of mobile telephones to control and interact wirelessly with local systems. For example, JP 8249530 describes the use of a mobile telephone to purchase goods from a vending machine by sending a radio signal directly to the vending machine or alternatively by placing a call to the vending machine over a telephone circuit. The cost of a purchased article or service is charged to the telephone subscriber's telephone account. Similarly, the use of mobile telephones to purchase such things as train and airline tickets, as well as to remotely operate televisions, stereos, etc, can be envisaged.

Consumer take-up of products offering this type of functionality will depend to a large extent upon the inter-operability of the products. The same applies to take-up by manufacturers. As such, the definition of some appropriate industry-wide standard for the radio interface between mobile terminals and local systems, e.g. vending machines, televisions, etc, is almost essential. A number of major electronics companies are currently working together in a project named "Blue Tooth" with the aim of providing such a standard.

Whilst the provision of a standard in this area will theoretically facilitate the interworking of mobile terminals with multiple local systems, a number of practical problems remain to be overcome.

Summary of the Present Invention

One such problem has been recognised by the inventor of the present invention. In relatively congested areas such as shopping centres, airports, railway stations etc, it is likely that several local systems offering a variety of products and services will be in close proximity to one another. A consequence of this is that the radio coverage provided by the systems will overlap. Whilst this does not necessarily represent a technical problem (the use of appropriate signalling technology will avoid cross-system interference), it may present a problem to the user of a mobile terminal who is likely to receive simultaneously several different and possibly competing messages and/or advertisements. A particular problem is that if the user wishes to take advantage of one particular service, he may not be certain with which service he is interacting.

It is an object of the present invention to overcome or at least mitigate the above noted disadvantages. This and other objects are achieved at least in part by facilitating interactive communication between a mobile terminal and a local service, or at least a critical part of said communication therebetween, only when the mobile terminal is positioned within a relatively small localised region.

According to a first aspect of the present invention there is provided a method of interworking between a mobile terminal and a local service in which information is conveyed between the local service and the mobile terminal over a local wireless communication channel, the method comprising:

broadcasting from the local service, over the wireless communication channel, service notification messages; and

conducting a mobile terminal identification process between a mobile terminal and the local service over the wireless communication channel, said process only proceeding if the mobile terminal is present within a localised region which is a sub-region of the region over which said service notification messages are broadcast.

Embodiments of the present invention enable different local services in the same vicinity to have respective "identification" regions, which may be spots, sectors, or the like. These identification regions may be distinguished on the floor with different colours, text, etc.

It will be understood that the term "local system" is used here to define a system which is capable of communicating with mobile terminals located in relatively close proximity to the system, e.g. within a range of 100 metres, 10 metres, or the like. The local service is typically a service provider or product dispenser.

Preferably, the mobile terminal is a cellular radio telephone or smart phone which communicates with a cellular radio network using a communications protocol, e.g. GSM, distinct from the protocol used over said local communication channel.

Whilst the service notification messages may be broadcast from the local service via a traditional broadcast antenna (where the wireless communication channel is a radio channel), the identification phase may be carried out using a directional antenna or receiver provided at the local service.

According to a second aspect of the present invention there is provided apparatus for interworking between a mobile terminal and a local service in which information is conveyed between the local service and the mobile terminal over a local wireless communication channel, the apparatus comprising:

a local system having transmitting means for broadcasting from the local service, over the wireless communication channel, service notification messages; and

at least one mobile terminal arranged in use to conduct an identification process with the local service over the wireless communication channel, said process only proceeding if the mobile terminal is present within a localised region which is a sub-region of the region over which said service notification messages are broadcast.

Preferably, the wireless communication channel is a radio channel, and the local system comprises a directional radio transmitter or receiver whose transmission/reception area defines said localised region.

According to a third aspect of the present invention there is provided a local service for interworking with a mobile terminal wherein information is conveyed between the local service and the mobile terminal over a local wireless communication channel, the local service comprising:

transmitting means for broadcasting, over the wireless communication channel, service notification messages;

a directional transmitter or receiver for defining a localised transmission/reception region which is a sub-region of the region over which said service notification messages are broadcast; and

processing means for conducting an identification process with a mobile terminal over the wireless communication channel and using said directional transmitter or receiver, said process only proceeding if the mobile terminal is present within the localised region.

Brief Description of the Drawings

For a better understanding of the present invention and in order to show how the same may be carried into effect reference will now be made, by way of example, to the accompanying drawings, in which:

Figure 1 shows schematically a vending machine and a mobile terminal which are able to interact with one another in accordance with an embodiment of the invention;

Figure 2 illustrates the radiation patterns produced by a broadcasting antenna and a directional antenna of the vending machine of Figure 1; and

Figure 3 is a flow diagram illustrating the method of operation of the system of Figure 1.

Detailed Description of Certain Embodiments

There is illustrated in Figure 1 a vending machine 1 which is one example of a local system in which the present invention may be employed. Articles which may be purchased from the vending machine include the likes of soft drinks, chocolate bars, etc. The vending machine has a control unit 2 which comprises a central processing unit 3 as well as a memory device 4 which stores control instructions for the central processing unit 3 as well as other data. The control unit 2 is electrically connected to the mechanical selection and outlet mechanism of the vending machine

l such that the control unit can cause specific items to be dispensed to a consumer via an outlet tray 5 of the vending machine 1.

The control unit 2 also comprises a radio frequency transceiver 6 which is coupled on the one side to the central processing unit 3 via appropriate interface circuitry (not shown in the Figure) and on the other side to a transmitting and receiving broadcast antenna 7. The transceiver 6, antenna 7, and central processing unit 3 are arranged to communicate with mobile terminals such as mobile telephones via a standardised local radio air interface protocol RI1. The range over which such communications may be carried out is relatively small, e.g. of the order of 10 metres.

The control unit 2 further comprises a directional transmitting and receiving antenna 8 coupled to the transceiver 6. The directional antenna 8 may be for example a mechanical slot type antenna. The control unit 2 is arranged to switch between the broadcast antenna 7 and the directional antenna 8 depending upon the particular transmission requirements. Figure 2 illustrates a plan view of the transmission/reception radiation patterns which may be produced by the two antennae 7,8, where the broadcast antenna 7 produces a generally circular pattern 9 and the directional antenna 8 produces a pattern 10 covering a restricted sector (shown cross-hatched) of the broadcast pattern. It will be appreciated that the radiation pattern produced by the directional antenna 8 will in practice deviate from the sector illustrated, e.g. having a lobe shape, and will encompass a 3-dimensional region of space.

Figure 1 illustrates a typical mobile telephone 11 which may be thought of as a "smart phone". The telephone 11 comprises a display 12 and a keyboard 13, as well as a central processing unit (or digital signal processor) 14. An antenna 15 and transceiver 16 of the telephone 11 enable the telephone to communicate in the normal way with a cellular telephone network 14, e.g. using the GSM protocol RI2, having a number of Base Station Subsystems 15 and a Mobile Switching Centre 16. However, the central processing unit 14 is additionally able to communicate with the control unit 2 of the vending machine 1 using the previously mentioned standardised local air interface. The same antenna 15 and transceiver 16 may be used for such local communications although another antenna and transceiver may be required. As the telephone 11 is able to communicate using two different protocols, it may be considered a "dual-mode" telephone.

In use, the control unit 2 is arranged to broadcast at regular intervals a Service Notification message over its 10 metres broadcast range using the broadcast antenna 7. Mobile terminals such as the telephone 11 are programmed to listen for such Terminal Alert messages and, upon receipt, to alert the telephone user that the telephone is within the coverage range of a local system to which the user has access. The Service Notification message will typically contain additional information describing the service which the broadcasting system offers. This may be displayed as text or an icon on the display 12 of the telephone 11.

The Service Notification message contains additional data which, in the event that the user responds to an "Accept Service?" prompt, causes the following message to be displayed on the

telephone's display 12: "Please move into the red circle and press *". Figure 2 illustrates an example "red" circle 17 (shown shaded in the Figure) which may be painted on the floor in front of the vending machine.

The central processing unit 3 of the vending machine's control unit 2 then switches the output and input of the transceiver 6 from the broadcast antenna 7 to the directional antenna 8. Assuming that the user of the mobile telephone 11 enters the red circle 17, he enters within the transmission/reception area 10 of the directional antenna 8. By pressing "*", the user causes the mobile terminal 11 to transmit an Identification message which is received by the directional antenna 8. The Identification message contains, for example, the user's telephone number which uniquely identifies the telephone 11. It is noted that, in the event that the user presses "*" whilst outside the sector 10, the transmitted Identification message is not received by the vending machine 1 and the process is eventually timed-out.

Upon receipt of the Identification message at the vending machine 1, the central processing unit 3 of the control unit 2 initiates a telephone call to the operator of the cellular network 14 to which the mobile telephone 11 subscribes, either via a fixed line connection or via the cellular network. The identity of the operator, or a telephone number of the operator, may be returned to the control unit 2 in the Identification message. This telephone call is used by the control unit 2 to verify the identity of the mobile telephone 11 and to establish a billing relationship.

When the identity of the telephone 11 has been authenticated by the vending machine 1, the vending machine 1 initiates a transaction phase with the mobile telephone 11. This will not be described in detail here but could include, for example, the selection at the mobile telephone 11 of an article to be purchased, from a list of possible articles transmitted to the telephone 11 from the vending machine 1. The transaction phase may be conducted using either the broadcast antenna 7 or the directional antenna 8, as the interworking relationship between the telephone 11 and the vending machine 1 is now established.

Upon receipt of a Purchase message, the central processing unit 3 of the control unit 2 instructs the vending machine to select and dispense the article identified in the Purchase message. The central processing unit 3 then redials the number of the network operator (if the previous authentication connection has been terminated) and transmits an instruction to the operator to debit the transaction cost from the telephone user's account and to credit it to an account held by the operator of the vending machine 1. It will be appreciated that other charging schemes may be used. For example, the cellular network operator may act as an electronic bank for the subscriber, holding a deposit of electronic money. Electronic money is transferred to the vending machine operator (or his bank) upon completion of the transaction.

Figure 3 is a flow diagram illustrating the interwoking procedure described above.

It will be appreciated by the person of skill in the art that other modifications may be made to the above described embodiment without departing from the scope of the present invention. For example, the local radio link (RI1) which couples the telephone 11 to the vending machine 1 may be replaced with an infra-red or ultra-sonic link.

As an alternative to using a directional antenna 8, the location of a transmitting mobile telephone may be determined by using an array of antennae at the vending machine 1. By using at least three receiving antennae and by measuring the relative propagation delays for a signal (codeword) transmitted from the mobile telephone, it is possible to verify that the telephone is within a predefined region. As a further alternative, radio signal may be directed to (and/or from) a predefined region using a waveguide or pipe for the purpose of verifying the location of a mobile telephone.

Claims

1. A method of interworking between a mobile terminal and a local service in which information is conveyed between the local service and the mobile terminal over a local wireless communication channel, the method comprising:

broadcasting from the local service, over the wireless communication channel, service notification messages; and

conducting a mobile terminal identification process between a mobile terminal and the local service over the wireless communication channel, said process only proceeding if the mobile terminal is present within a localised region which is a sub-region of the region over which said service notification messages are broadcast.

2. A method according to claim 1, wherein the mobile terminal is a cellular radio telephone or smart phone which communicates with a cellular radio network using a communications protocol distinct from the protocol used over said local communication channel.

3. A method according to claim 1 or 2, wherein the service notification messages are broadcast from the local service via a broadcast antenna and the identification phase is carried out using a directional antenna or receiver provided at the local service.

4. Apparatus for interworking between a mobile terminal and a local service in which information is conveyed between the local service and the mobile terminal over a local wireless communication channel, the apparatus comprising:

a local system having transmitting means for broadcasting from the local service, over the wireless communication channel, service notification messages; and

at least one mobile terminal arranged in use to conduct an identification process with the local service over the wireless communication channel, said process only proceeding if the mobile terminal is present within a localised region which is a sub-region of the region over which said service notification messages are broadcast.

5. Apparatus according to claim 4, wherein the wireless communication channel is a radio channel, and the local system comprises a directional radio transmitter or receiver whose transmission/reception area defines said localised region.

6. A local service for interworking with a mobile terminal wherein information is conveyed between the local service and the mobile terminal over a local wireless communication channel, the local service comprising:

transmitting means for broadcasting, over the wireless communication channel, service notification messages;

a directional transmitter or receiver for defining a localised transmission/reception region which is a sub-region of the region over which said service notification messages are broadcast; and

processing means for conducting an identification process with a mobile terminal over the wireless communication channel and using said directional transmitter or receiver, said process only proceeding if the mobile terminal is present within the localised region.

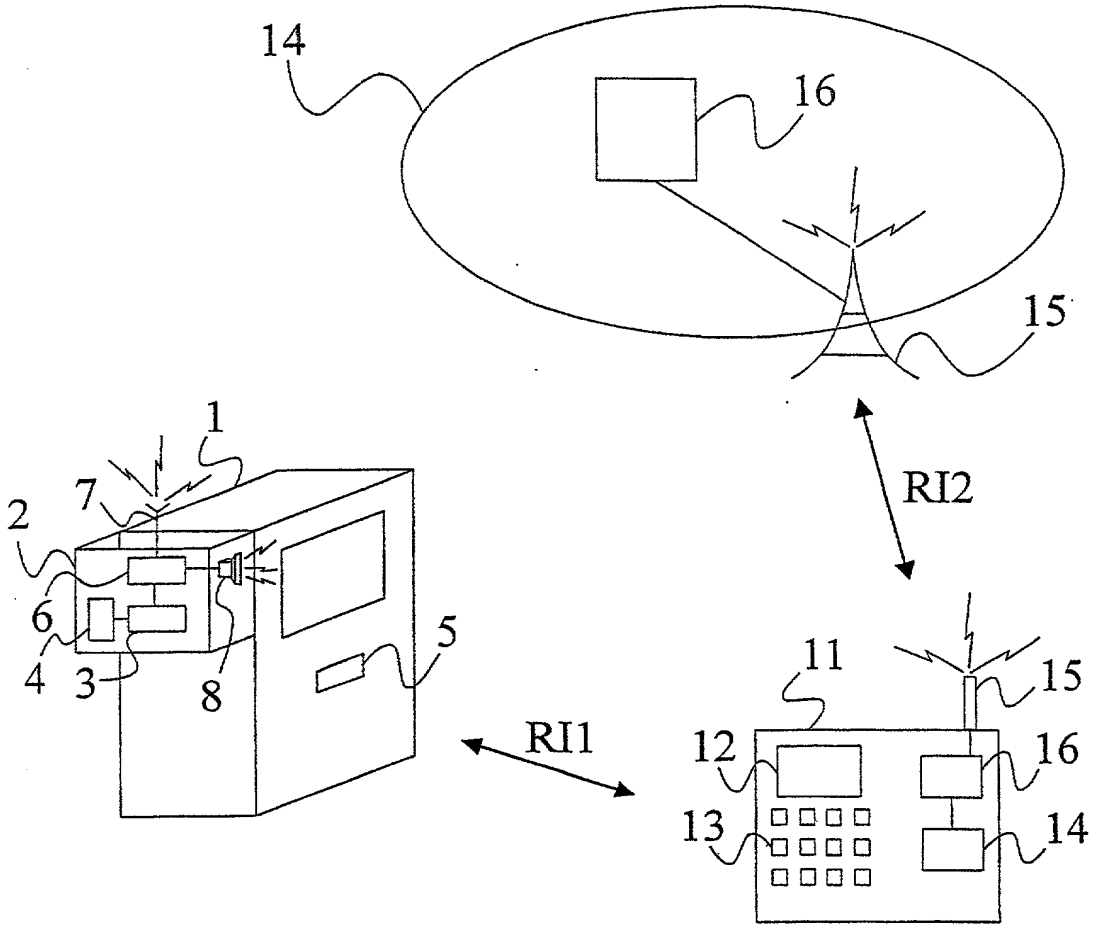

Figure 1

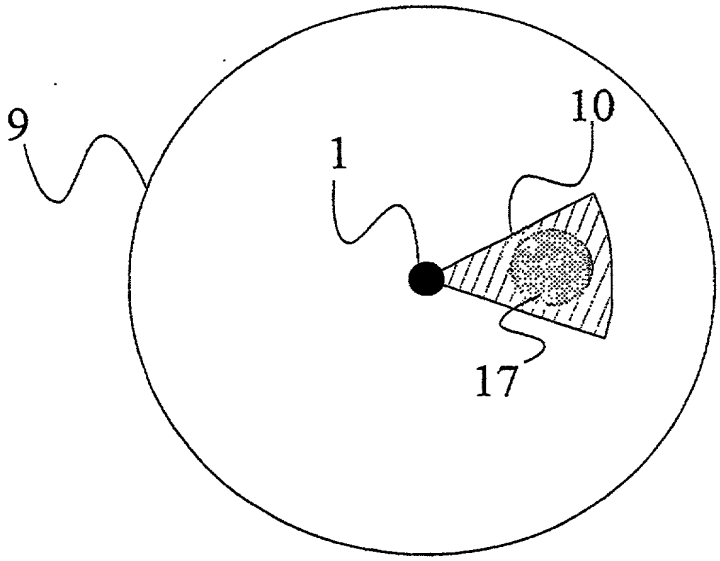

Figure 2

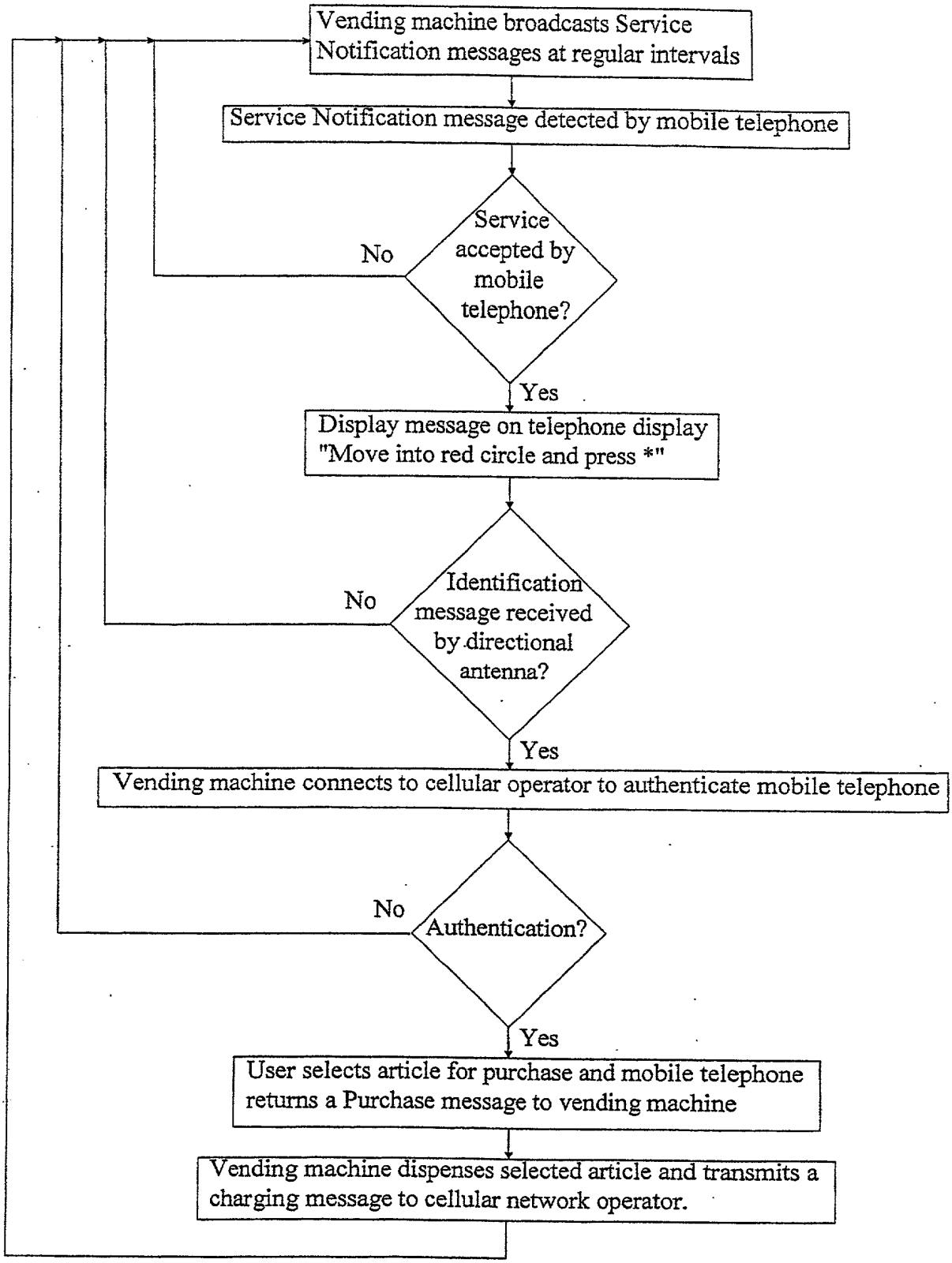

Figure 3

LMR 98135
PM 22 PC-US

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY **(Includes Reference to Provisional and PCT International Applications)**	Attorney's Docket No. 027566-033

As a below named inventor, I hereby declare that:
My residence, post office address and citizenship are as stated below next to my name;
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

LOCAL WIRELESS SERVICES

the specification of which (check only one item below):

☐ is attached hereto.

☐ was filed as United States application
Number _____
on _____
and was amended
on _____ (if applicable).

☒ was filed as PCT international application
Number PCT/FI99/01054
on 17 December 1999
and was amended
on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(e) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. §119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 U.S.C. §119
FINLAND	990037	11 January 1999	X Yes _ No
			_ Yes _ No
			_ Yes _ No
			_ Yes _ No
			_ Yes _ No

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONT'D) (Includes Reference to Provisional and PCT International Applications)	Attorney's Docket No. 027566-033

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

(Application Number)	(Filing Date)
(Application Number)	(Filing Date)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States applications(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Office all information known to me to be material to the patentability as defined in Title 37, Code of Federal Regulations §1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. §120:

U.S. APPLICATIONS			STATUS *(check one)*		
U.S. APPLICATION NUMBER	U.S. FILING DATE		PATENTED	PENDING	ABANDONED
PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. APPLICATION NUMBERS ASSIGNED (if any)			

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONT'D) (Includes Reference to Provisional and PCT International Applications)	Attorney's Docket No. 027566-033

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

William L. Mathis	17,337	Eric H. Weisblatt	30,505	Bruce T. Wieder	33,815
Robert S. Swecker	19,885	James W. Peterson	26,057	Todd R. Walters	34,040
Platon N. Mandros	22,124	Teresa Stanek Rea	30,427	Ronni S. Jillions	31,979
Benton S. Duffett, Jr.	22,030	Robert E. Krebs	25,885	Harold R. Brown III	36,341
Norman H. Stepno	22,716	William C. Rowland	30,888	Allen R. Baum	36,086
Ronald L. Grudziecki	24,970	T. Gene Dillahunty	25,423	Brian P. O'Shaughnessy	32,747
Frederick G. Michaud, Jr.	26,003	Patrick C. Keane	32,858	Kenneth B. Leffler	36,075
Alan E. Kopecki	25,813	B. Jefferson Boggs, Jr.	32,344	Fred W. Hathaway	32,236
Regis E. Slutter	26,999	William H. Benz	25,952	Wendi L. Weinstein	34,456
Samuel C. Miller, III	27,360	Peter K. Skiff	31,917	Mary Ann Dillahunty	34,576
Robert G. Mukai	28,531	Richard J. McGrath	29,195		
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James A. LaBarre	28,632	Michael G. Savage	32,596		
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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